



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF FISH AND WILDLIFE

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Governor

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Stream Classification

Stream classifications are established through the State's Surface Water Quality Standards (SWQS) through a formal rule making process. As trout are an important indicator of stream health waters are classified on their ability to support trout and trout associated species. Classification is based on the fish species present during standardized electrofishing sample.

Trout Production - supports trout reproduction (young-of-the-year trout documented)

Trout Maintenance - supports trout and/or trout associated species year round trout reproduction not documented (no young-of-the-year). Incidence of Occurrence > 20

Non-Trout - Does not support trout and/or trout associated species. Incidence of Occurrence < 20

MUSCONETCONG RIVER

(Hackettstown) - Lake Hopatcong dam to and including Saxton Lake, except tributaries described separately FW2-TM

(Saxton Falls) - Saxton Lake to the Delaware River, including all unnamed and unlisted tributaries FW2-TM(C1)

It is important to note that throughout the SWQS rivers and stream segments are denoted with general location reference as they often traverse a number of municipalities and/or counties. For streams having more than one classification a different location reference is used for each classification segment. The exact reach of stream that a classification applies to is explicitly defined following the general location reference.

The entire length of the Musconetcong River has been classified as Trout Maintenance since stream classifications were first incorporated into the SWQS in 1981. The section of the river from Saxton Lake to the Delaware River was upgraded to Category 1 on June 16, 2008 based on the presence of threatened and endangered species and exceptional ecological significance.

In 2006, the 3.5-mile segment from Saxton Falls to the Route 46 Bridge (scenic) and the 20.7-mile from the King's Highway Bridge to the railroad tunnels at Musconetcong Gorge (recreational) was classified as a National Wild and Scenic River.

LAKE HOPATCONG

Lake Hopatcong is also classified as FW2-TM.

Lakes are also classified by their ability to support trout year round and are designated in the SWQS. Trout maintenance lakes must have a layer of water with favorable conditions of temperature (21° C or less) and dissolved oxygen (4 mg/l or greater). Measurements are taken during the summer months as these are the critical times when temperatures are often at their highest and dissolved oxygen readings at their lowest. Unfortunately, over time the water chemistry changes in Lake Hopatcong have greatly reduced the extent of summer trout supporting water in the lake. The lake's ability to support trout year round is marginal and often limited to only small pockets of coldwater refugia resulting from natural springs. As such, the lake is managed as a year-round warmwater/coolwater fishery (bass, walleye, muskellunge, hybrid striped bass, perch, sunfish and catfish) and a seasonal fishery for stocked trout.

Temperature Criteria

In accordance with the SWQS water temperature criteria for Trout Maintenance waters the temperature shall not exceed a daily maximum of 25°C (77°F) or rolling seven-day average of the daily maximum of 23°C (73°F), unless due to natural conditions.

Adjustments to Outflow

In accordance with the Lake Hopatcong Water Level Management Plan, deviations from the established (normal) operating procedures that *may* be considered in the event, 1) local conditions pose imminent danger to life and property, 2) a drought warning is declared by NJDEP Commissioner; 3) spring precipitation for any preceding three months is less than seven (7) inches in aggregate, or 4) when summer lake levels drop below 8 ft.

DEP's Division of Fish and Wildlife conducted an assessment of the river by looking at stream flow conditions, stream temperatures, dissolved oxygen levels, and upcoming weather forecasts at various times in 2015 (see attached chart). Despite significant snowfall over the winter, early spring flow surges from melting snow were short lived and below average spring precipitation resulted below average stream flows. Coupled with early warm weather patterns, initial temperature water measurements were warmer than anticipated in May.

A shift in weather patterns in early June, brought a drop in air temperatures and a localized storm event which allowed for a short term reduction in outflow. However, the reduction in flow from 12 cfs to 8 cfs increased the lake level only 0.023 inches per day ultimately adding only an eighth of an inch to overall lake level.

Warm, dry weather patterns continued throughout the summer. Stream temperature measurements on July 27, 2015 exceeded the daily maximum of 25°C for Trout Maintenance waters at all stations between Lake Hopatcong and Lake Musconetcong. When measured again on August 28 although a slight drop in temperatures was recorded two stations still exceed the 25°C daily maximum. Current increased air temperatures and continued lack of rainfall will continue to elevate stream temperatures.

Monitoring of stream conditions and weather patterns conducted in 2015 were similar those conducted in 2012. However, stream temperatures, weather patterns and stream flows only allowed one reduction to outflow. In 2012, several reductions were made. Those efforts however, only resulted in an additional inch in lake level.

Stream Temperatures

	Location	May 18	May 29	June 4	June 11	July 1	July 27	Aug 28
1	Musconetcong River, immediately below Lk Hopatcong dam 40° 55' 3.3"N 74° 39' 52.3" W	20.5°C 68.9 °F	20.3°C 68.5°F	19.7°C 67.4°F	22.1°C 71.8°F	22.5°C 72.5°F	26.7°C 80.1°F	24.1°C 75.4°F
2	Musconetcong River, approx. 50m downstream of Lakeside Blvd (Rt 602) bridge 40° 55' 1.2" N 74° 39' 58.2" W	20.4°C 68.7 °F	20.5 °C 68.9°F	19.8°C 67.6°F	22.2°C 72.3°F	22.7 °C 72.9°F	26.8°C 80.4°F	24.5°C 76.1°F
3	Musconetcong River, at end of Trudy Court – wetland area 40° 54' 42.3" N 74° 40' 26.0" W	19.9°C 67.8 °F	20.3 °C 68.5°F	19.4°C 66.9°F	23.4°C 74.1°F	23.4°C 74.1°F	26.5°C 79.7 °F	25.6°C 78.1°F
4	Musconetcong River, end of Willow Street (off Center St) by pump station 40° 54' 32.9° N 74° 40' 53.3" W	19.4°C 66.9°F	21.8 °C 71.2°F	18.1°C 64.6°F	22.6°C 72.7°F	22.4°C 72.3°F	25.4°C 77.7 °F	24.7°C 76.5°F
5	Musconetcong River, below Lk Musconetcong, approx. 50m downstream off Rt 183 bridge 40° 54' 7.1"N 74° 42' 19.2" W	21.9°C 71.4°F	23.0°C 73.4°F	20.3°C 68.5°F	23.8°C 74.8°F	22.5°C 72.5°F	26.9°C 80.4°F	25.2°C 77.4°F
6	Tributary stream to wetlands below Lk Hopatcong @ Brooklyn – Stanhope Rd bridge 40° 54' 53.5" N 74° 40' 31.0' W	15.8 °C 60.4°F	19.8°C 67.6°F	15.5°C 59.9°F	19.7°C 67.5°F	19.5°C 67.1°F	21.6°C 70.9°F	18.9°C 66.0°F

Red font denotes exceedence of 25°C (77°F) daily maximum temperature limit for Trout Maintenance waters

